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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/066,513	04/24/98	REYNOLDS	K 21669USA

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EXAMINER

NOLAN, S

ART UNIT

PAPER NUMBER

1772

12

DATE MAILED: 05/22/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/066,513

Applicant(s)

REYNOLDS ET AL

Examiner

Sandra N Ian

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Mar 19, 2001
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 and 25-31 is/are pending in the application.
- 4a) Of the above, claim(s) 18-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 25-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirements.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other: _____

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DETAILED ACTION

Claims

1. Pursuant to entry of the amendment dated March 19, 2001 (Paper No. 11), claims 1-31 are pending. Claims 1-17 and 25-31 are under consideration; claims 18-23 are withdrawn as non-elected (Applicants acknowledged of their withdrawal in their response dated September 26, 2000 (Paper No. 9)).

Rejection Withdrawn

2. The 35 USC 103 rejection of claims 1-17 and 25-28 as unpatentable over Frederiksen (CA 1,254,110) in view of Giatras et al (US 4,362,069) and Greuel (US 5,922,425), as set out in paragraph 4 of the December 12, 2000 Office Action (Paper No. 10), is withdrawn in view of Applicants' amendments to the claims in Paper No. 11.

New Rejections

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-17 and 25-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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The term "bonded" is indefinite because it can be interpreted to mean that a chemical bond is formed between the layers in the claimed assemblies. As described at page 7, lines 10+ of the specification, Applicants' layers have a "mechanical bond" [quoted from page 7, line 10; emphasis added] therebetween.

Please clarify.

Claim Rejection - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-17 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giatras et al (US 4,362,069) taken with Greuel (US 5,922,425) and Sasaki et al (US 5,789,047).

Giatras et al show inner liners for push-pull cable assemblies (abstract). The liners contain polytetrafluoroethylene ("PTFE") (col. 3, line 58 and col. 5, line 43) and polyphenylene sulfide (PPS) filler (col. 3, lines 50-51 and col. 5, lines 45-46). Giatras does not teach the bonding of his liners to outer layers or Applicants' optional intermediate fluoropolymer layers.

Greuel teaches PTFE with fluoropolymers in multilayer articles that may be co-extruded (col. 2, line 31) and are useful in multilayer constructs for making tubing and cable jacketing (abstract; col. 2, lines 40-42). Carbon black (col. 6, line 2) is a "carbon powder" filler [per claim 13]. The compositions of Greuel are processed via extrusion (col. 7, lines 45+) and the multilayer

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constructs may be bonded using an "adhesion-promoting tie layer" which may contain various polymers and/or blends thereof (col. 8, lines 11).

Sasaki et al shows flexible multilayered tubes containing PTFE in inner and outer layers (abstract). The tubes may be endoscope tubes (abstract). Note col. 11, lines 40+, where properties such as superior smoothness on the inner wall (lines 45-46) are discussed.

The tubes of Sasaki et al may contain fluoropolymer adhesives between layers (col. 7, lines 36+.

It would have been obvious to one having ordinary skill in the art at the time that the invention was made to employ the PTFE/PPS combination of Giatras as the liner and the PTFE/carbon black combination of Greuel along with the fluoropolymer adhesive of Sasaki et al in making multilayer tubes, such as those of Sasaki et al, in order to assure that the inner liner has the requisite properties needed for use in a push-pull assemblies (per Giatras) and the outer layer has the melt stability and processability of the fluoropolymer layers of Greuel.

Motivation to employ the Giatras et al combination to make the inner sheath in a cable assembly that employs the multilayer structures of Greuel is found at col. 2, lines 56+ of Giatras et al, where the anti-friction properties of their liners are discussed; and at col. 2, lines 18-21 of Greuel, where the thermal stability and melt-processability of the patented multilayer composites are discussed. It is deemed desirable to produce cable assemblies having superior properties in the inner layer as well as good processability in order to assure long service life and ease of manufacture.

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Also, motivation to use Greuel's combination to make the outer sheath is found at col. 1, 41-50 of Greuel, where the PTFE formulations are said to having wide mechanical utility. It is deemed desirable to produce push-pull cable assemblies having good mechanical properties in their outer layers.

Lastly, motivation to employ the fluoropolymer adhesive layer of Sasaki et al when making the cable assemblies suggested by the combination of references is found at col. 7, lines 36-41, where the use of the fluoropolymer adhesive layer is said to improve the integration between the inner and outer ("first layer" and "second layer") fluoropolymer layers. It is deemed desirable to improve the integration of the inner and outer fluoropolymer layers in order to increase the service life of the cable assemblies.

Response to Arguments

7. Applicant's arguments with respect to claims 1-17 and 25-31 have been considered but are moot in view of the new ground(s) of rejection.

Final Rejection

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication should be directed to Sandra M. Nolan, whose telephone number is (703) 308-9545. The examiner can normally be reached on Monday through Thursday from 7:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (703) 308-4251. The fax phone number for the art unit is (703) 305-5408. The telephone number for the receptionist is (703) 308-0661.

SMN/smn
May 15, 2001
09066513.4

HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

5/18/01